

88

<b>Notice of Allowability</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/820,339		WATANABE ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Barbara Summons		2817	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-83.
3. ☒ The drawings filed on 08 April 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>4/8/04 &amp; 6/25/04</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material   | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9. <input type="checkbox"/> Other _____.   |

### **REASONS FOR ALLOWANCE**

1. The following is an examiner's statement of reasons for allowance:

The prior art of record does not disclose or fairly suggest a surface acoustic wave (SAW) device including a balance-unbalance conversion function and SAW filters and/or SAW resonators connected to each other or to balanced or unbalanced terminals as recited in the various independent claims, and especially wherein: 1) either two SAW filters or comb-shaped electrode portions connected to the two balanced signal terminals provide a "difference in intensity of an excited surface skimming bulk wave" (see claims 1 and 13); or 2) wherein two resonators connected to respective balanced signal terminals have "different intervals between tips of electrode fingers and bus bars" or between tips of electrode fingers and "dummy electrode fingers" or have "different lengths of dummy electrode fingers" or have "at least one of different film thicknesses of bus bar portions and different film structures" or have "sound absorptive material" having at least one of "different compositions and different thicknesses" (see claims 24, 30, 36, 42 and 48, respectively); or 3) two resonators connected between a corresponding two filters and the unbalanced terminals, and wherein the resonators have the features listed in part 2) above (see claims 54, 60, 66, 72 and 78).

Prior art considered of interest, is discussed below.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Takamine et al. U.S. 6,828,878 discloses a SAW device with balance-unbalance conversion two SAW filters and two SAW resonators between the filters and the unbalanced terminal and two SAW resonators between the filters and the respective balanced terminals (see Fig. 1), wherein the SAW resonators 223 and 224 have dummy electrode fingers 228, but the length of the dummy electrode fingers and the distance between the tips of the electrode fingers and the dummy fingers is not different between the two resonators. Takamine discloses that the configuration of the two resonators may be different to increase balancing (see col. 8, lines 25-32), but does not discuss in what manner the resonators would differ.

Takamine U.S. 6,771,144 also discloses a similar SAW device with two SAW resonators having dummy electrode fingers (Fig. 1).

Sawada et al. U.S. 6,731,188 discloses two SAW filters providing a balance-unbalance conversion, and wherein the two SAW filters have a different electrode finger overlap width W1 and W2 (Fig. 1). However, having a different overlap does not necessarily mean that the distance between the tips of the electrode fingers and the bus bars would be different, or that consequently, the intensity of the surface skimming bulk wave generated in the space between tips of electrode fingers and bus bars would be different.

Taguchi et al. U.S. 5,936,488 clearly shows comb-shaped electrodes with different distances between the tips of the electrode fingers and the bus bars (see e.g. 501 and 502 in Fig. 5), but the filter does not have a balanced-unbalanced conversion function.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barbara Summons whose telephone number is (571) 272-1771. The examiner can normally be reached on M-Th, M-Fr.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bob Pascal can be reached on (571) 271-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

bs  
August 23, 2005



**BARBARA SUMMONS**  
**PRIMARY EXAMINER**